

## Athlete's foot

Athlete's foot (tinea pedis) is a skin infection caused by a type of fungus called a dermatophyte. Athletes foot is the most common dermatophyte infection seen and can affect anyone. People with compromised immune systems are especially vulnerable to infections caused by these organisms.

### Epidemiology

Dermatophytes that attack the skin are able to survive there because they have developed the ability to live on keratin, a protein which most other organisms cannot utilize. Keratin is the structural protein found in skin, nails and hair.

Tinea pedis (athlete's foot) is very contagious, contracted by contact with spores that are shed by infected individuals onto the floors of swimming pool facilities, locker rooms, showers, etc. It is most contagious in moist, warm environments such as locker rooms or hot tub areas. Most often, people get it by walking barefoot in areas where someone else with athlete's foot has walked. The fungi can easily be transferred to your shoes, especially tight shoes in which air cannot circulate, where they then grow and ultimately cause a rash on your feet.

The infection can also be spread from one site on the body to other sites. Tinea pedis can spread to the groin (tinea cruris) or scalp (tinea capitis). Dermatophytes especially like to live in moist, warm areas of the body or on the scalp.

### Symptoms

#### Acute tinea pedis:

- Usually self-limited and recurrent
- Often follows activities that cause feet to sweat
- Begins with the appearance of intensely itchy, sometimes painful, red blisters between the toes or on the soles of the feet
- Sometimes, it will simply look like dry, flaky skin on the feet

#### Chronic tinea pedis:

- Begins with a slowly progressive itchy, red area of skin breakdown seen as scaling and cracking of the skin.
- First seen between toes but spreads to the sole and side of the foot, and sometimes to the top of the foot.

### Diagnosis

- Is made most often by history and clinical presentation
- It can be confirmed by examination of scrapings mixed with a solution under the microscope
- A fungal culture can be done also, though usually isn't due to the length of time needed to get results.
- Chronic tinea pedis can look like eczema or psoriasis

## **Treatment**

- Usually treated by topical antifungal creams for one to four weeks, applied once to twice daily
- Chronic infections can require oral antifungal therapy for anywhere from one to six weeks
- Secondary bacterial infections may occur and require oral antibiotics also
- Using antifungal powders on feet and shoes can help prevent reinfection
- Wearing open shoes can help with healing

## **Prevention**

- Keep feet clean and dry
  - Don't just stand in the shower and expect feet to get clean but actually using a cloth, soft shower brush, or loufa, actually scrub the feet
  - Dry thoroughly and between the toes after bathing, showering, or swimming
  - Do not put on socks when feet are wet
  - Do not put on shoes when feet are wet
- Wash with soap and/or shampoo after sports or exercise
- Change socks at least once a day
  - Cotton socks will absorb sweat
  - White socks do not prevent athlete's foot, as some people believe
- Wear shoes that are roomy and allow some air to circulate
  - Shoes that are made of breathable materials, such as leather, are best
  - Shoes made of materials such as vinyl, cause the feet to remain moist and thus provide a good place for fungi to grow
- Wear flip-flops or other footwear in gym shower or locker room to prevent contact
- Avoid sharing nail tools, such as clippers and scissors
- Avoid sharing sports gear, shoes, and towels with others.
- Use antifungal foot powders, both on the feet (between the toes) and in the shoes
- When washing clothing, use hot water and bleach to increase the chance of killing fungi. Washing clothes in soapy, warm water may not kill the fungi that cause athlete's foot.